INTERNATIONAL PROGRAMS & RESEARCH OPPORTUNITIES

> 2016/2017

TECHNION. *together.*

www.int.technion.ac.il

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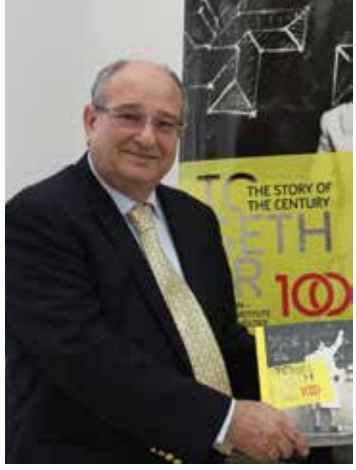


Welcome to the Technion-Israel Institute of Technology, Israel's oldest university with a long tradition of innovation.

Technion has evolved from a small technical university into a world-leading institution, consistently ranked among the world's top 50 science and technology research universities. Since its founding in 1912, Technion has remained a place dedicated to pioneering new technologies, where creative individuals continually strive to anticipate the needs of emerging technologies and science.

Today, Technion is a city of advanced research and learning and the birthplace of many of Israel's most exciting tech innovations. Set on a modern campus in Haifa, it is home to a prominent faculty, among them three recent Nobel laureates, with a long list of notable alumni including engineers, scientists, physicians, professors, and entrepreneurs. It was recently acknowledged as one of the world's leading entrepreneurial ecosystems and incubator for future successful entrepreneurs. Indeed, Technion has played a leading role in fostering Israel's "Start-Up Nation" economy.

In 2009, Technion established Technion International to oversee the institute's international academic programs and initiatives, as well as its academic agreements with its foreign partners worldwide, numbering more than 200 universities and research frameworks. Today, students from all corners of the world are enrolled in Technion International programs taught entirely in English, which include full undergraduate and graduate programs, post-doctoral fellowships, study abroad semester and summer programs, summer programs for gifted teens, research internships and a variety of entrepreneurship programs.

Recognizing the important role of scientific exchange in today's knowledge-based global environment, Technion became the first Israeli university to establish a presence overseas. In the US, Technion launched a joint applied science institute with Cornell University in New York City, named the Jacobs Technion-Cornell Institute (JTCI), offering advanced degrees and research and development opportunities. And in China, Technion is opening a cooperative university with Shantou University in southern China, the Guangdong-Technion Israel Institute of Technology (GTIIT), which will grant Technion degrees at all levels – Bachelor's, Master's and PhD.

I have no doubt that choosing to study at Technion will open up a world of opportunities for you to be inspired and inspire others, for here you become part of an intellectually stimulating community of scholars set on shaping a better future.

I look forward to welcoming you to Technion and wish you achievement and success in your every endeavor.

Sincerely,

Prof. Peretz Lavie
President
Technion-Israel Institute of Technology

Bloomberg ranked Technion in 7th place for producing CEOs of American technology companies worth over $1 billion

Technion was ranked 6th worldwide for innovation and entrepreneurship in a recent MIT survey

Technion has the second highest number of foreign associates in the US National Academy of Engineering

Half of Israeli companies traded on NASDAQ were founded by Technion graduates

Technion was ranked in 8th place for top universities producing Nobel prizewinners

Companies led by Technion graduates account for 54% of Israel's industrial exports

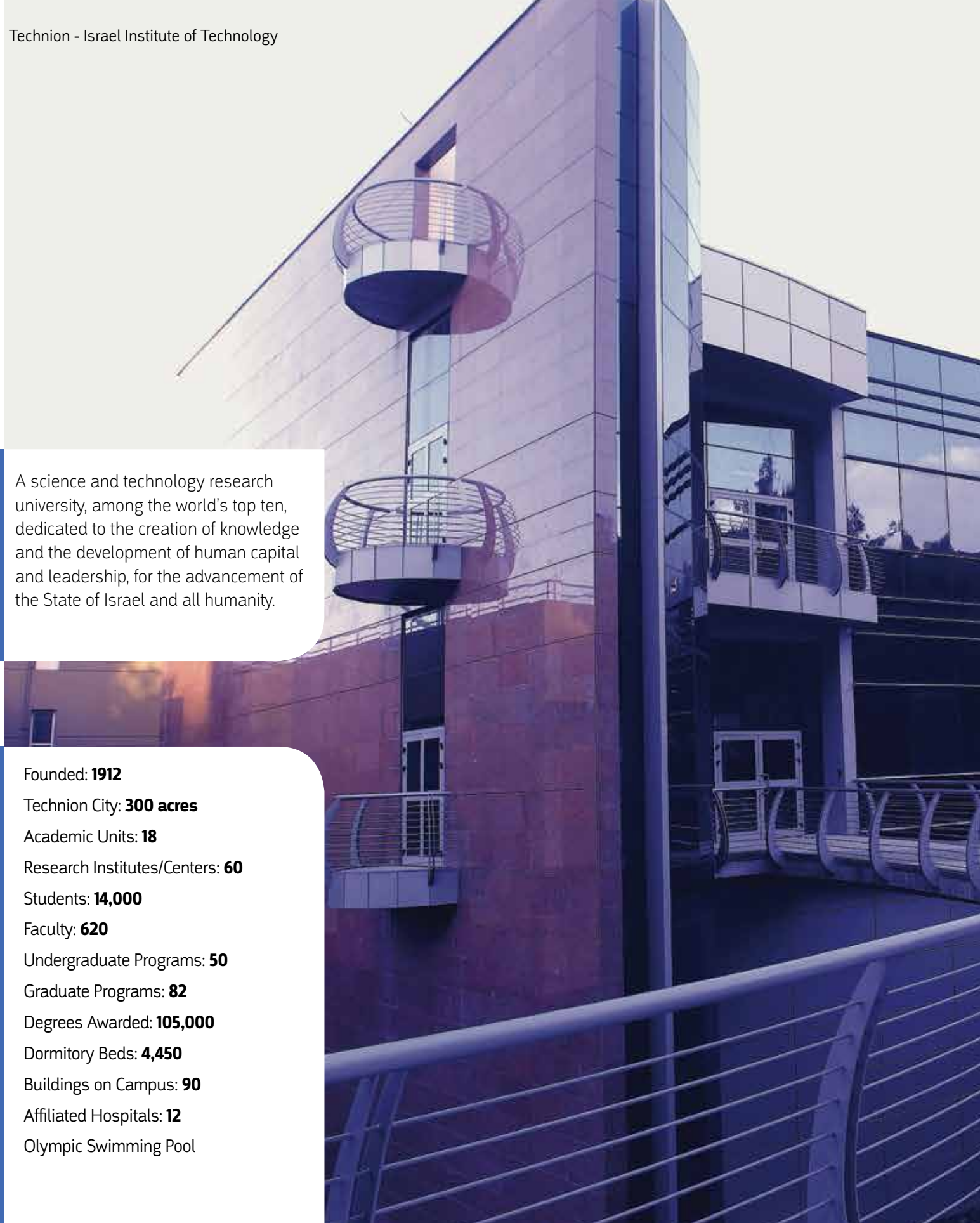
Technion ranks 18th in the world in computer science and 44th in engineering, according to the 2015 Shanghai Academic Ranking

85% of Israel's technological workforce is employed by companies led by Technion graduates

Israel's first university to establish joint campuses overseas: The Joan and Irwin Jacobs Technion-Cornell Institute in NYC, USA and the Guangdong-Technion Israel Institute of Technology in Shantou, China

Technion's Faculty of Architecture and Town Planning recently ranked #3 in Europe, according to recognized architecture and design magazine Arch20

23% of Technion graduates start at least one new company during their careers



Our Vision

A science and technology research university, among the world's top ten, dedicated to the creation of knowledge and the development of human capital and leadership, for the advancement of the State of Israel and all humanity.

Go Figure

Founded: **1912**

Technion City: **300 acres**

Academic Units: **18**

Research Institutes/Centers: **60**

Students: **14,000**

Faculty: **620**

Undergraduate Programs: **50**

Graduate Programs: **82**

Degrees Awarded: **105,000**

Dormitory Beds: **4,450**

Buildings on Campus: **90**

Affiliated Hospitals: **12**

Olympic Swimming Pool

Technion City sits atop Mount Carmel, overlooking Haifa Bay

Faculties

Aerospace Engineering
Architecture and Town Planning
Biology
Biomedical Engineering
Biotechnology and Food Engineering
Chemical Engineering
Chemistry
Civil and Environmental Engineering
Computer Science
Education in Science and Technology
Electrical Engineering
Humanities and Arts
Industrial Engineering and Management
Materials Science and Engineering
Mathematics
Mechanical Engineering
Medicine
Physics

Technion Timeline

1912

Cornerstone laying ceremony

'23

Einstein visits, plants tree, and pledges commitment to Technion

'30s

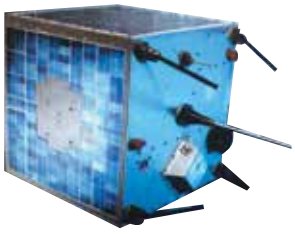
Launch of Mechanical Engineering – generating the basis for Israeli industry

'40s

Technion develops technologies for Hagana forces

'50s

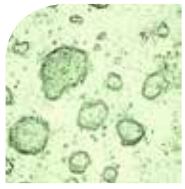
David Ben-Gurion chooses site for new campus. Aeronautical Engineering faculty opens – the foundation for Israel's aerospace industry



'90s

Technion strategizes national absorption plan for the massive influx of scientists from USSR

Technion launches Techsat Gurwin I microsatellite into space



'98

First Human embryonic stem cells are extracted by Prof. Joseph Itskovitz-Eldor

2003

Technion launches Israel's first interdisciplinary nanoscience center – the Russell Berrie Nanotechnology Institute (RBNI)

'04

Technion Distinguished Professors Avram Hershko and Aaron Ciechanover named Israel's first Nobel laureates in science

2006

The entire Hebrew Bible is engraved on a 0.5mm^2 nano chip

'60s

Electrical Engineering Faculty launches microelectronics – the birth of Israel's high-tech sector

'70s

Rappaport Faculty of Medicine opens – triggering research synergy of life sciences and engineering

'80s

Advent of Israeli high-tech — Intel establishes R&D center near Technion

'11 / '13

Distinguished Professors Dan Shechtman and alumnus Arieh Warshel receive the Nobel Prize in Chemistry - carrying forward the Technion Nobel Legacy

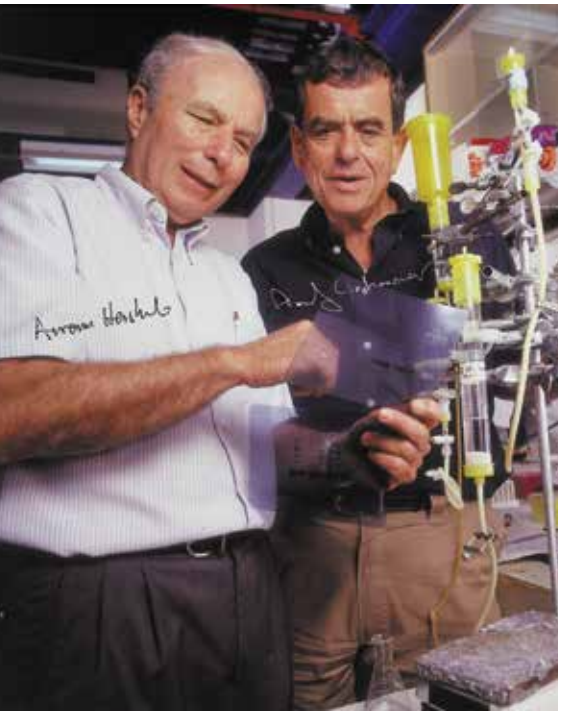
'12

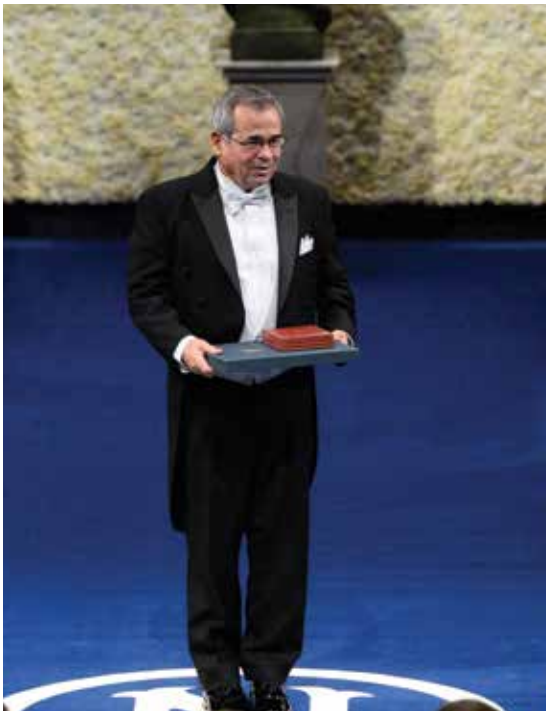
Technion and Cornell win NYC competition to establish the Jacobs-Technion Cornell Institute

'13

Li Ka Shing Foundation, Shantou University and Technion sign the foundation of a Chinese-Israeli university - the Guangdong-Technion Israel Institute of Technology

Nobel Firsts





The Ubiquitin Revolution
The 2004 Nobel Prize in Chemistry was awarded jointly to Profs. Aaron Ciechanover, Avram Hershko and Irwin Rose "for the discovery of ubiquitin-mediated protein degradation." This was Israel's first Nobel Prize in science and marked Israel's emergence in the highest league of science and technology.

The ubiquitin discovery by two professors at the Technion Rappaport Faculty of Medicine, together with their US colleague, has opened a range of research fields, pharmaceuticals and treatments in areas from cancer to neurodegenerative disorders.

A Nobel Matter
In April 1982, Technion Prof. Dan Shechtman observed a remarkable phenomenon - the formation of quasicrystals. The way was opened to the historic unveiling of a new class of matter, which won Shechtman the 2011 Nobel Prize in Chemistry.

In quasicrystals, we find the fascinating mosaics of the Islamic world reproduced at the level of atoms: regular patterns that never repeat themselves. It was a test of excellence, diligence and self-confidence, as the new class of matter observed by Shechtman was at first considered impossible within established science.

Nobel Alumni
Technion graduate Prof. Arieh Warshel received the 2013 Nobel Prize in Chemistry, together with Profs. Michael Levitt and Martin Karplus for "the development of multiscale models for complex chemical systems."

Presently a distinguished professor of Chemistry and Biochemistry at the University of Southern California, Warshel earned his undergraduate degree at Technion, class of 1966 – the same year as Nobel laureate Dan Shechtman completed his BSc in Mechanical Engineering.

Innovation

A breath test for cancer
Using advanced nanosensors to save lives through early diagnosis, the work of Nazareth-born Prof. Hossam Haick exemplifies how ingenuity combined with innovation shapes a better future.

Azilect® *for treating Parkinson's disease, was developed by Profs. Moussa Youdim and John Finberg together with Teva Pharmaceuticals.*

Lempel–Ziv–Welch (LZW) *algorithm is a universal lossless data compression algorithm created by Profs. Abraham Lempel, Jacob Ziv, and Terry Welch. Today, it is used in pdf, JPG, tiff, png and zip file formats.*

Technion Nation
Research shows Technion graduates are leading 59 of 121 Israeli companies on NASDAQ with a combined market value of over $28 billion.

Intel Israel *was set up by Technion graduate Dov Frohman, and rapidly became the innovative source of generations of advanced Intel processors.*

Predicting the Future
Ranked among the world's 35 top innovators under 35, Technion graduate Dr. Kira Radinsky's events prediction software is presently being put to work in her start-up SalesPredict.

Iron Dome - *Saving civilian lives from rocket attack, the Iron Dome, introduced by Technion graduates at Rafael Advanced Defense Systems, is one of the world's first effective missile defense systems.*

Disk-on-key - *As founder and chairman of M-Systems, Technion graduate Dov Moran introduced the DiskOnKey.*

InSightec - *Surgery using non-invasive ultrasound will replace the surgeon's knife through the innovative determination of Technion graduate Dr. Kobi Vortman of InSightec.*

ReWalk - *Founded by Technion graduate Dr. Amit Goffer, Rewalk Robotics developed a revolutionary robotic suit that brings paraplegics the ability to walk, climb stairs and drive.*

Technion-**Cornell**

Technion and Cornell were selected to position New York as an international center for technological innovation. Founded in 2012, the Jacobs Technion-Cornell Institute in New York City is combining global strengths in research, advanced education and entrepreneurship.

photos ©Jeff Weiner

Based on Roosevelt Island, JTCI is part of Cornell Tech and is formed in multidisciplinary hubs: Connective Media (digital media technologies and social impact); Health Tech (technologies that individualize healthcare); and Built Environment (technologies for the urban environment).

The MS degrees are dual degrees – graduates will receive a Technion degree as well as a Cornell degree. Runway is an innovative program for recent PhD graduates interested in working on R&D projects with the intent to launch start-up companies in fields related to one of the Institute's hub areas: Connective Media, Health Tech and the Built Environment.

Programs Now Offered at the Jacobs Technion-Cornell Institute

- **Master of Science (MS) in Information Systems with specialization in Connective Media**
- **Master of Science (MS) in Information Systems with specialization in Health Tech**
- **Runway Postdoctoral Program**

For more information on these programs and admission procedures, please visit: tech.cornell.edu/jacobs-technion-cornell-institute

JACOBS INSTITUTE

AT

CORNELL TECH

Guangdong-Technion

The Technion is creating a new university in Shantou, Guangdong Province, China to be called the Guangdong-Technion Israel Institute of Technology (Guangdong-Technion). The university will be established in partnership with Shantou University and with the support of the Li Ka Shing Foundation, the People's Government of Guangdong Province and Shantou Municipal Government.

(l-r) Mr Li Ka-shing, Governor Zhu Xiaodan, Ms Solina Chau, President Peretz Lavie

Technion and its partners have received formal approval to prepare the new campus and work is well-advanced on designing the Phase I campus adjacent to Shantou University. Governor Zhu Xiaodan of Guangdong Province hosted a festive meeting in Guangzhou in July 2015, which was attended by President Peretz Lavie of the Technion and other dignitaries and campus architects.

Construction will start in October 2015 and the 90,000 square meter campus space will be completed in 2016. It will consist of modern facilities, providing the infrastructure required for high-level education and research in engineering and science disciplines.

Modern dormitories and an attractive ambience will also help make the campus a great home for students, as well as for faculty recruited from leading universities and research centers around the world.

The first degree programs to be offered will be Technion degrees in engineering, and pending Ministry of Education approval, may start as early as 2016 with a program in Chemical Engineering incorporating a specialization (minor) in environmental engineering.

Planned as a "research university" from the outset, in parallel with teaching degree programs, all under the guidance of Vice-Chancellor and Nobel Laureate Professor Aaron Ciechanover, Guangdong-Technion will house research centers focused on key issues of the 21st century: namely protecting the environment; the sustainable production of energy; and improving human health.

A significant part of undergraduate teaching will be conducted by professors who are active researchers. These same researchers will also supervise postgraduate research students, so that students at Guangdong-Technion will be able to obtain Technion degrees at all levels – Bachelor, Master's and PhD.

Affiliated closely with the Technion in Haifa, Guangdong-Technion will be able to leverage the strengths of the Technion in engineering and science – not only in research and education, but also in innovation.

As part of Phase 2, the extended campus will include industrial innovation centers – both for R&D sites for existing companies and also for incubating or accelerating start-ups.

In recent years Technion has successfully educated Chinese students, as well as other international students, at all levels in its Haifa campus. The new campus in Guangdong promises to further amplify the impact of Technion research and graduates on the world, and on China in particular.

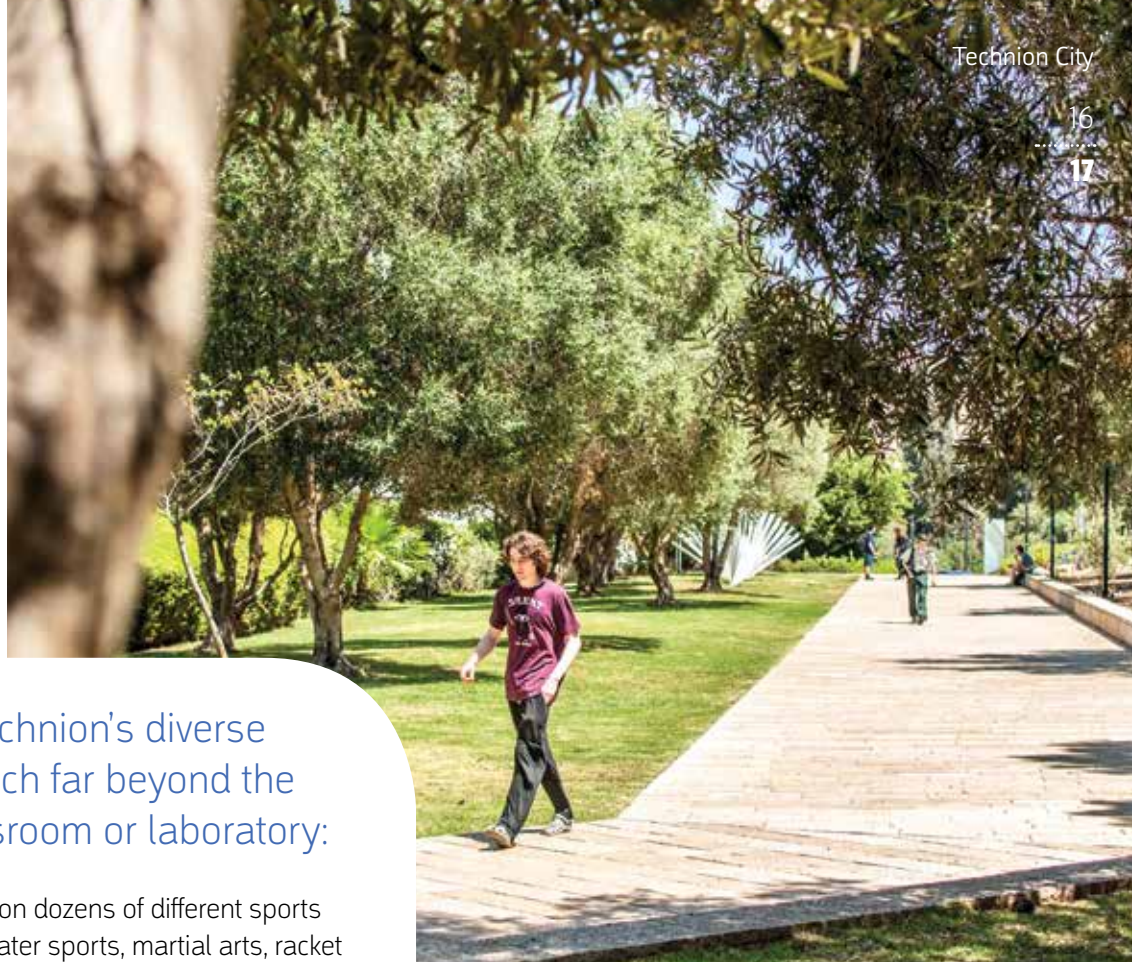
For more information please visit: guangdong.technon.ac.il

Technion City

Welcome to your exciting new home

With modern dorms and computer centers operating 24/7, restaurants, cafes, banks, shops, medical and dental clinics, supermarket, school supply shop, hairdresser, second-hand shop, laundromats, and access to public transportation and Student Center within easy reach, the university campus has come to be known as “Technion City.”

Technion offers students a wide variety of weekly athletic, social and cultural activities. Once a week all teaching stops for two hours while Technion City celebrates with live music and open air markets for a chance to take a break from busy academic schedules, and meet with friends or mingle with the diverse groups of people on campus. Film and music fans can catch a movie at the campus cinema located at the Student Center or attend live concerts at the amphitheater within walking distance.



The talents of Technion's diverse student body reach far beyond the lecture hall, classroom or laboratory:

- Student athletes play on dozens of different sports teams ranging from water sports, martial arts, racket sports and other unusual and extreme sports.
- Musicians and singers can lend their talents to the Technion Symphony Orchestra and Choir, and dancers can join Technion's Folk Dance Troupe, an acclaimed troupe that performs often on campus as well as at national and international events.
- Individuals wanting to become proactive in student affairs or interested in planning campus-wide events are welcome to get involved in the Technion Student Association.

Technion attracts students from all over the world, and is home to a thriving intellectual community that contributes to a friendly and vibrant cosmopolitan atmosphere on campus.

Location - Inspiring Innovation
The Technion campus is one of the largest and most beautiful university campuses in Israel. It extends over a 1.2 square kilometer area of pine woodlands on Mount Carmel, set 212m above sea level, with views of the spectacular Haifa Bay and Galilee.

Building Energy
Extensive sports facilities include a modern fitness center and gym offering a wide selection of classes (from Pilates, yoga and kickboxing to ballroom and belly dancing), an Olympic swimming pool, and basketball, tennis and squash courts.

Sports Facilities –

Green Campus – Fostering Sustainability
Environmental studies, energy conservation and recycling are a big part of life on campus. Students are involved in building devices for saving and recycling water, designing eco-smart buildings, and gardening techniques using minimal irrigation.

Art – Unleashing New Possibilities
At Technion, art is seen as a nurturing agent of creativity, refined technique and regeneration that can inspire researchers to innovate. Stimulating works of art are displayed at the Technion's PeKA Gallery, the Central Library gallery, and throughout the sculpture gardens dotted across the campus.

Food – Great Places to Meet and Eat
The Technion has a variety of food venues, with numerous restaurants, cafes, cafeterias and a campus pub. Campus dining options include Middle Eastern, Israeli, American, Chinese, Japanese, Thai, Italian and Indian cuisines.

Religious and Spiritual Life
Technion embraces all spiritual traditions and celebrates the diversity of religious identity both on and off campus. Several synagogues, churches, mosques and other houses of worship can be found in the surrounding area. On campus, the Ohel Aharon Synagogue complex holds regular daily services as well as weekly study groups for English speakers, and the "Beyachad" Religious Life Organization coordinates Shabbat dinners. Orthodox lifestyle is supported by Kosher meat and dairy cafeterias, cafes and restaurants*, Kosher dorms (available upon request), and separate swimming and work out hours for men and women at sport and recreation facilities.

** Except for the restaurant at the swimming pool, which is open on the Sabbath.*

Haifa

Haifa is Israel's northern capital and third largest city, and home to the country's largest port. Its white sandy beaches, breathtaking mountainous scenery, clean streets, lush quiet neighbourhoods and bountiful religious and historical sites offer visitors a unique blend of traditional and contemporary culture.

Multicultural Hub

Haifa is home to a population of more than a quarter of a million residents from diverse cultures and faiths: Jews, Muslims, Christians, Ahmedi (an Indian sect of Islam), Druze and Bahai. The city serves as the world center of the Baha'i faith famous for its magnificent gardens, and many important holy sites can be found here, including several ancient churches and mosques, Elijah's Cave, and more.

Several museums are located in Haifa, and the city hosts a wide array of festivals and cultural activities throughout the year. The annual Haifa Film Festival features high quality local and international films, drawing thousands of visitors, among them directors, screenwriters, actors, and other industry professionals.

Academic and Technological Hub

Haifa is considered a bustling technological and academic hub, housing high-tech giants as well as two leading universities, namely, the Technion and Haifa University with a combined enrollment of some 40,000 students from Israel and abroad. From here some of the world's most important scientific research and breakthroughs have sprung.

- The city was recently crowned the 'smartest' city in the Middle East, and ranked 24th worldwide by Spain's IESE Business School based on categories of innovation, sustainability and quality of life.
- The university is situated near the Carmel Nature Reserve that offers beautiful hiking trails and automobile and biking paths, and is fondly nicknamed "Little Switzerland."
- The city's well maintained beaches serve many of Israel's top sailing and surfing enthusiasts and host sailing competitions and other sporting events.
- Haifa is an hour's drive from Tel Aviv and less than two hours from Jerusalem.

"Technion International has provided me with the ideal environment, both for intellectual growth and for establishing worldwide connections."

- Jonathan Savosnick, Norway. BSc in Civil Engineering (2014)

He is currently pursuing a Master's degree in Civil and Environmental Engineering at the University of California, Berkeley.

Technion International

Your Gateway to International Programs

STUDY PROGRAMS

- Undergraduate Studies
- Graduate Studies
- Study Abroad
- Postdoctoral Fellowships
- High School Programs
- Internship Opportunities
- Customized Programs

- Experience engineering excellence and innovation
- Learn with leading experts in science and technology
- Diverse and challenging academic programs
- Hands-on learning opportunities
- Cutting-edge research facilities
- Make cross-cultural connections
- Friendly and supportive environment
- Enriching social and cultural activities
- Tour Israel
- Learn Hebrew

Make Technion part of your academic journey. Here you'll learn new ways of approaching modern engineering and scientific problems and challenges.

Technion International is home to all of Technion's international programs and initiatives. It serves all incoming and enrolled international students and promotes their interaction and integration with the wider Technion community. It also oversees all collaborative academic relationships with foreign partner institutions worldwide. Technion has academic agreements with more than 200 universities and research frameworks around the globe.

Today, students from more than 50 countries are enrolled in Technion International English- and Russian-language programs in engineering, science and entrepreneurship and innovation. They include full undergraduate and graduate programs, study abroad semester and summer programs, research internships, summer programs for gifted teens and customized study tours in specialized fields such as entrepreneurship and water technologies.

As part of the study abroad experience, students also enjoy a vibrant student life: living in modern dorms on campus, enjoying the Technion's excellent sports facilities, learning Hebrew (optional), and participating in social and cultural activities and trips in Israel organized by Technion International.

International partners and prospective partners are invited to contact us at: agreement@int.technion.ac.il

High Schools are invited to contact us at: marketing@int.technion.ac.il

Prospective students may contact us at: apply@int.technion.ac.il

Technion has active student exchange and R&D programs in countries all over the world, including:

SINGAPORE > CANADA > FRANCE > GERMANY > UNITED KINGDOM > THE NETHERLANDS > AUSTRALIA > SWITZERLAND > INDIA > CHINA > UNITED STATES

BSc in Civil Engineering

Core Themes: Construction Management and Water Resources Engineering

The BSc in Civil Engineering degree is a prestigious program designed to train future engineers to meet the challenges of infrastructure and modernization in the 21st century. Taught by leading faculty at Technion's Faculty of Civil and Environmental Engineering, the program exposes students to structural, economic, and construction management aspects of the physical and natural built environment, water resources planning, geoinformatics and transportation engineering. It also explores underlying applications of science and engineering for the improvement and preservation of natural resources.

Program Details

In addition to studying engineering fundamentals, students will learn about construction management at different stages of the construction process, such as management, economic, business, planning and legal issues associated with this process. Students will also study topics related to the design and management of water delivery and supply systems, water and wastewater treatment and recycling, as well as the development of new water sources.

Basic tools for mapping a site and understanding geo-information will also be taught, as well as transportation science and road engineering covering areas including the design and operation of roads, junctions and interchanges, pavement design and traffic flow characteristics.

The degree consists of **155.5 academic credits** and can be completed in **4 years**.

Program Structure

SEMESTER	SUBJECTS TAUGHT
0	Preparation Period – Math and Physics
1	Chemistry, Hebrew and Basic Science Courses
2-5	Engineering and Science Fundamentals
6-8	Civil and Environmental Engineering Specialization Courses

Civil engineers are needed in all urban and rural areas. Career options include:

- Building control surveyor
- Consulting civil engineer
- Contracting civil engineer
- Site engineer
- Water engineer
- Building services engineer
- Engineering geologist
- Environmental consultant
- Water desalination
- Water recycling

BSc in Chemical Engineering

Core Themes: Chemical Engineering and Environmental Engineering

The BSc in Chemical Engineering prepares future engineers to tackle many of the global challenges we will be facing in the next 50 years. The program responds to the demand for professional engineering solutions to emerging human and natural impacts on the local and global environment associated with energy, water, healthcare, food production, consumer goods manufacturing (such as plastics and polymers and pulp and paper), and other factors.

Program Details

Students will study chemical process analysis, reactor engineering, bioprocess engineering, heat and mass transport, particle mechanics and processing, and separations phenomena. Special emphasis will be placed on mitigation of environmental consequences by treating the wastes generated in the production process or by redesigning the process.

The BSc in Chemical Engineering program will be offered at the new Guangdong-Technion institute in Shantou, China. Until formal approval is received for recruiting students to the new campus, the program will be taught at the Technion Haifa campus. All graduates of the program will be awarded a BSc in Chemical Engineering from the Technion.

The degree consists of **157 academic credits** and can be completed in **4 years**. The program combines classroom academics with hands-on experience.

Program Structure

SEMESTER	SUBJECTS TAUGHT
0	Preparation Period – Math and Physics
1	Chemistry, Hebrew and Basic Science Courses
2-5	Engineering and Science Fundamentals
6-8	Chemical and Environmental Engineering Specialization Courses

Chemical Engineers enjoy diverse career options in areas including:

- Chemical production or manufacturing
- Oil exploration and refining
- Pharmaceuticals, biomedical or biotechnology industries
- Sustainable engineering
- Food production
- Consumer goods
- Alternative energy and fuels
- Process safety
- Environmental clean-up
- Environmental protection
- Water desalination

BSc in Mechanical Engineering

Core Themes: Robotics, Control, and Dynamical Systems

The BSc in Mechanical Engineering trains future engineers for professional practice in an era of rapidly advancing technology. Students are taught by internationally renowned faculty members and expert lecturers from industry at Technion's Faculty of Mechanical Engineering, and benefit from a stimulating environment and state-of-the-art laboratories – among the most advanced of their kind in the world.

Program Details

Mechanical engineers are involved with the mechanics of motion, the transfer of energy from one form to another or one place to another and apply these principles to design products that are safe, efficient, reliable, and cost effective. The degree program will provide students with a strong base in mechanics, materials, fluid and thermal sciences and offers areas of specialization in robotics, control, and dynamical systems. Students will also gain practical skills and knowledge of robotics, computer aided design and simulation. Coursework will be combined with project-based laboratory and design assignments at the faculty's advanced laboratories, to help students develop independence, creative talent, and leadership experience.

The BSc degree in Mechanical Engineering is comprised of at least **158.5 academic credits** and can be completed in **4 years**.

Program Structure

SEMESTER	SUBJECTS TAUGHT
0	Preparation Period – Math and Physics
1	Chemistry, Hebrew and Basic Science Courses
2-5	Engineering and Science Fundamentals
6-8	Mechanical Engineering Specialization Courses

Mechanical engineers can find employment in virtually any industry: aerospace, automotive, robotics, pharmaceutical, power generation, and more. Career options include (but are not limited to):

- Building control surveyor
- Biomedical engineer
- Engineering project manager
- HVAC engineer
- Management consultant
- Manufacturing systems engineer
- Mechanical product designer
- Mining engineer
- Nuclear engineer
- Research and development engineer
- Robotics engineer

Undergraduate Admissions, Fees and Transfers

Admission decisions take into account applicants' academic performance as well as their ambitions, motivation, and extracurricular talents and achievements.

BSc programs start in August
Application deadline: July 1

Admission Requirements

- Secondary school diploma and transcripts (candidates should have a strong background in math/science)
- Standardized test scores if applicable - SAT, ACT or GaoKao (Science)
- Personal Essay
- Letters of recommendation from two teachers
- Students who are non-native English speakers must also submit English proficiency test scores, either TOEFL (minimum 80) or IELTS (minimum 6)
- Resume with two passport sized pictures
- Students must achieve the minimum required average in all of the subjects studied in the Academic Preparation program in order to continue in their undergraduate degree program

Transfer to Technion Programs in Hebrew

International students who have successfully completed the first year (Freshman Year) of their BSc program with high academic standing have the option of transferring into a regular Hebrew undergraduate study track offered in other Technion faculties, provided their Hebrew language skills are sufficient.

The following faculties may accept transfer students: Chemical Engineering; Aerospace Engineering; Biotechnology and Food Engineering; and Mechanical Engineering.

Faculty Transfer Procedures

Internal faculty transfer applications by international students will be considered on a case-by-case basis by the designated faculty.

The faculty will consider transfer requests based on the grades earned during the Freshman Year as follows:

- Academic Preparation program average
- Grade point average of academic courses taken in the first year of the program
- Hebrew placement examination score at the end of the first year

Please note that individuals applying for a transfer are responsible for inquiring with the faculty in question about its transfer requirements.

Admission may be submitted online at http://regint.technion.ac.il

"The Technion inspires the students to think and explore by themselves. It never restrains different thoughts, but helps to realize them."

- Yuting Wang, China. BSc in Civil Engineering (2014), *currently pursuing a Master's degree in Civil and Environmental Engineering at Stanford University.*

Research MSc/PhD

Dream It. Do It. Technion welcomes outstanding international applicants for graduate studies in Israel

Here you will work alongside distinguished investigators who strive to extend the frontiers of their respective scientific and engineering endeavors. Technion prepares you for independent, critical and creative thinking in an environment that supports promising research, encourages innovation and celebrates excellence.

Graduate Program Study Tracks

- **MSc degree** *(2-year program)*
- **PhD** *4.5-year direct track; Master's degree during PhD Studies*
- **PhD** *3.5-year track for students who hold an MSc degree*

Application Process

All MSc and PhD applicants are required to find a faculty advisor prior to submitting an application. We recommend checking the faculty website and contacting the Graduate School International Students Advisor. All complete applications that meet Technion's criteria are forwarded to the Graduate Studies Committee at the appropriate academic unit for formal consideration.

Language Requirements for International Students

Graduates of an accredited academic institute in which the language of instruction is English, as well as an applicant whose grade in the verbal part of the GRE exam or the GMAT exam is 75% or higher, will be exempt from taking an English exam.

* *PhD students are required to take an "Academic English Writing" course within three semesters.*

Application Deadlines for MSc Programs:

Fall Semester
February 1 – April 1

Spring Semester
October 1 - November 1

Application Deadline for PhD Enrolment

Year round

HOW TO APPLY

STEP 1
Please fill out the forms and pay the registration fee online at: http://graduate.net.technion.ac.il/en/application-for-admission/

STEP 2
Await an official admission decision. All complete applications that meet the university's criteria are forwarded to the Graduate Studies Committee at the appropriate department for formal consideration.

For additional information please contact the Graduate School International Students Advisor at: Intgrad@technion.ac.il

Join us to advance your research career

GRADUATE PROGRAMS TAUGHT IN ENGLISH

Chemtech - Graduate Program in Chemistry

Chemtech offers MSc and PhD studies in all modern fields of chemistry in a supportive multidisciplinary environment. Graduate students become involved in important cutting-edge research in new promising fields working alongside renowned faculty and sophisticated scientific instrumentation. Studies at the Schulich Faculty of Chemistry overlap the associated fields of physics, materials sciences, biology, energy, medicine, electronics and nanotechnology, and its research program encourages students to engage in two or more sub-disciplines.

Research fields include:

- physical chemistry
- analytical chemistry
- inorganic chemistry
- organic chemistry
- biochemistry
- theoretical chemistry

Admission Requirements:
Proven academic excellence in BSc or MSc with a major in chemistry.

Course requirements and listings, as well as admission information is provided in the 'Graduate Programs' section of *http://int.technion.ac.il*

Graduate Program in Chemical Engineering

MSc and PhD research tracks at the Wolfson Faculty of Chemical Engineering combine advanced academic studies with innovative research carried out in the framework of one of the Faculty's research groups. The research topics aim to respond to the needs of the chemical industry worldwide, and many of them are interdepartmental.

A wide range of topics in "classical" and "modern" chemical engineering areas are covered including basic and applied research:

- processes
- heat, mass and flow transfer
- advanced materials
- polymer science and technology
- environmental science and technology
- conversion and storage of energy and alternative fuels
- biochemical science and technology

Admission Requirements:
Candidates for the masters program must hold a BSc in chemical or materials engineering with high standing.

For course requirements and listings as well as admission information contact us at:
Intgrad@int.technion.ac.il

Graduate Program in Physics

Technion's Faculty of Physics invites highly qualified international students to earn their MSc and PhD in a broad range of fields in physics. Along with challenging courses, Master's students will spend a large portion of their studies undertaking research *(at least one full year of research activities)* mentored by prominent faculty members, many of whom have made significant contributions to the advancement of basic and applied physics.

A broad range of vigorous research areas covering all the major fields of physics are offered including:

- astrophysics
- high energy physics
- plasma and condensed matter physics
- mathematical physics
- biophysics

Admission Requirements:
Proven academic excellence in BSc or MSc with a major in physics with high standing.

For course requirements and admission information please contact us at:
Intgrad@technion.ac.il

An intriguing program of seminars and lessons by visiting world-leading academics will complement your research and course study at the Technion.

Technion American Medical Students (TeAMS) Program

The Technion American Medical Students (TeAMS) Program offered by Technion's Ruth and Bruce Rappaport Faculty of Medicine provides a unique opportunity for North American students to study an American-style medical school curriculum in English at Israel's most prestigious faculty of medicine.

For nearly three decades, the TeAMS program has prepared medical students for successful residency placement and future careers in health and medicine in the United States and Canada. TeAMS aims to build bridges between the Israeli and North American medical communities by training outstanding physicians, arming them with the knowledge and skill-sets to make a difference in their home communities.

Technion prepares you for independent, critical and creative thinking in an environment that supports promising research, encourages innovation and celebrates excellence.

The curriculum emphasizes the behavioral sciences, in which students learn the various facets of the doctor-patient relationship and study the ethical aspects of medical practice. Preventive medicine and community public health services are stressed as major elements in health care.

TeAMS students benefit from small class size, one-on-one mentoring, extensive clinical experience and exposure to excellent research and Technion affiliated cutting-edge medical research and biotech advancements. Graduates of the program join a strong and close-knit alumni network.

Students live near the Faculty of Medicine located at Haifa's Bat Galim neighborhood on the shores of the Mediterranean Sea.

"Over the past several years the Technion American Medical Program (TeAMS) has graduated over 100 students with approximately 90% obtaining internships and residencies at some of the most prestigious medical centers in the USA (Mayo, Cleveland Clinic, Stanford, Cornell and Harvard) and in all medical subspecialties (Surgery, Opthalmology, Radiology, Medicine, Pediatrics, Obstetrics and Gynecology, Neurology, Psychiatry and Family Medicine). "

- Prof. Andrew Levy, *Head of the TeAMS Program*

"Over the last two years, I was given the opportunity to publish two clinical reports and an original communication. This is an experience I know I would not have gotten anywhere else besides the Technion."

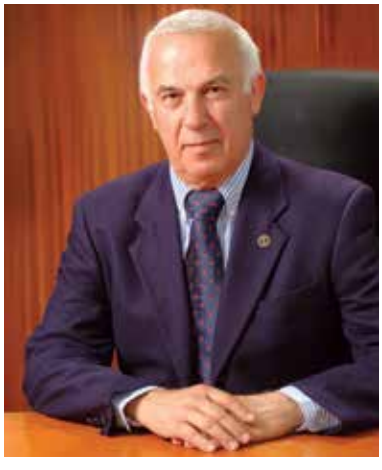
- Allen Pimienta, Canada.
TeAMS Student

Admission Criteria

The program is open to qualified US and Canadian citizens. Applicants are evaluated based on their academic record, research interests and a well-rounded background.

Prospective students must hold a Bachelor's degree from an accredited US or Canadian university, complete the MCAT exam successfully and complete the pre-med requirements as detailed in the website: **http://teams.technion.ac.il.**

Information about tuition fees for Technion's TeAMS program can be found at http://teams.technion.ac.il
You may also contact teams@tx.technion.ac.il



"Each year TeAMS prides itself on pushing its boundaries and increasing the innovative learning atmosphere. Our students are our shining pride, and their academic achievement, as well as their altruistic nature ensures the quality and caliber of our program."

- Prof. Eliezer Shalev, MD
Dean, Ruth and Bruce Rappaport Faculty of Medicine

Technion Start-uP MBA

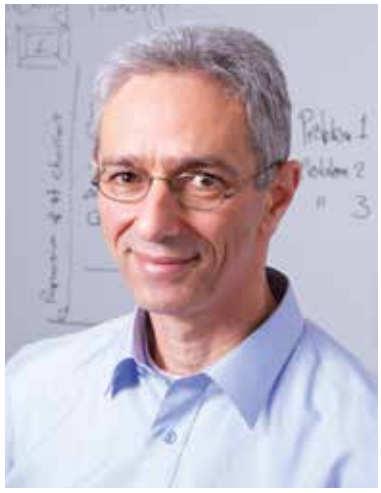
The Technion's Start-uP MBA is a one-year international program taught in English at the newly renovated Technion-Azrieli Sarona Campus in Tel Aviv. The program's unique model provides essential training in management functions, underscoring the skills needed for entrepreneurs who are interested in launching their start-up company or promoting entrepreneurship and innovation in their organizations.

Start-uP MBA is a prestigious program that exposes students to the start-up scene in Israel and engages students in practical projects and internships that transform ideas into commercial products and services. The teaching faculty includes world-renowned scholars and highly experienced practitioners with a proven track record.

Students also benefit from the Yale Global Network for Advanced Management, which encompasses twenty-seven business schools around the world. Those interested in initiating their own start-up company can leverage the guidance of the program's staff.

The Start-uP MBA curriculum delivers foundation courses that develop expertise in the functional domains of management, core courses that offer integrative frameworks and specialization in entrepreneurship, innovation, and technology management, as well as advanced courses that extend this specialization and emphasize practical application.

As part of the program, students participate in corporate visits to leading corporations, start-up companies and technological incubators in Israel. These visits are combined with guided tours around the country. Industry seminars provide a platform for interacting with Israeli executives and entrepreneurs who discuss managerial dilemmas with students. The program's consulting courses offer student groups the opportunity to promote projects from patent to commercialization as well as develop business plans for start-up companies. Each student participates in an internship at a start-up company to gain hands-on experience and make lasting networking contacts.



"We live in the creativity era. Today, people with creative ideas can make a difference; they can help create a better world, and benefit from their contribution. The Technion Start-uP MBA program is designed to help people with creative abilities fulfill their potential. If you are a person of ideas, yearning to learn how to put them into use, then our program is designed for you."

Prof. Ido Erev, *Vice Dean for MBA Programs*

Admission Criteria

- An undergraduate grade point average (GPA) of at least 3.0 (equivalent of B or 75 percentile) from an accredited university)
- Graduate Management Admission Test (GMAT). This requirement may be waived for students with a graduate degree
- A TOEFL Exam. The minimum required score is 600 (paper-based), 250 (computer-based) or 100 (Internet-based). This requirement will be waived for:
  - students with an undergraduate degree from a university in which the native teaching language is English or,
  - students with a GMAT or GRE verbal section score higher than 75th percentile
- Minimum 2 years of professional post-graduation experience. This may be waived for exceptional students with a GPA higher then 3.6 (A)
- Two letters of recommendation
- A statement of interest describing the qualifications and aspirations of the candidate

Information about tuition fees for Technion's Start-uP MBA program can be found at: http://startupmba.technion.ac.il
You may also contact Ellab@trdf.technion.ac.il

Generous merit-based scholarships are available to qualified students.

"This program is ideal for students who want to pursue a one-year MBA with an emphasis on entrepreneurship, innovation and technology management, and also to emerging entrepreneurs who seek to launch their own start-up concurrently with their studies. Israel is the perfect place to learn about start-ups, and since Technion alumni have founded or manage two thirds of the Israeli-based companies listed on Nasdaq, the Technion is the best institution to teach start-up skills."

Dr. Avital Regev Siman-Tov

Managing Director of MBA Programs

Postdoctoral Research Fellowships

Engage in groundbreaking scientific research with a vibrant community of culturally diverse scientists.

Technion offers postdoctoral scholars an opportunity to hone their professional skills, deepen their expertise, expand their research and collaborate with leading scientists in an environment that supports and celebrates excellence. The university's world-class academic units and centers cover a wide range of traditional engineering disciplines, exact and life sciences, medicine and architecture, as well as unique multidisciplinary topics such as nanoscience, energy, and autonomous systems and robotics.

Technion welcomes outstanding international PhD scholars who have completed their doctoral studies or who are interested in a second postdoc position to conduct their research at its modern facilities. Choosing to conduct your research at Technion will strengthen your resume and improve your chances of receiving faculty positions at Technion or other major research universities.

Technion offers generous fellowships to excellent candidates, affordable housing and other social and family services. Fellows enjoy Technion's lively campus as well as unique social and cultural activities. The Office of Postdoctoral Affairs at Technion International serves all international postdoctoral fellows and ensures a "soft landing" and successful integration into life in Israel and at the Technion. The office offers services such as: pre-departure planning, information on housing and living at the Technion and in Haifa, social and professional events and activities, and more.

Conditions of Award

- Stipend – generous fellowships are available
- Candidates shall NOT hold Israeli citizenship
- Only candidates whose PhD was awarded in the past five years may apply
- Applicants must first identify a research sponsor (Technion faculty member) who will supervise the training and research experience
- Applicants must provide updated CV with a list of publications and three letters of academic reference

Career Opportunities

Upon successful completion of their postdoctoral training, excellent candidates will be considered for tenure-track faculty positions.

Internationally competitive start-up packages will be provided for new faculty recruited to the Jacobs Technion-Cornell Institute (JTCI) and the Guangdong-Technion Israel Institute of Technology (GTIIT).

The JTCI New York City campus will be looking for successful candidates passionate about wanting to contribute to advancing emerging interdisciplinary areas that the institute labeled as "hubs"; connective media (technologies driving digital media and the social impact of this connectivity), Health Tech (technologies that emphasize individual healthcare and promote healthier living), and the built environment (technologies for the urban environment such as smart buildings).

The new campus in China, Guangdong-Technion, will be looking for excellent candidates for tenure track faculty positions mainly, but not limited to, fields of civil and environmental engineering, chemical engineering as well as supporting science fields – chemistry, physics, mathematics and related disciplines.

More detailed information on Postdoctoral Fellowships at Technion can be found in the 'Research' section of the website http://int.technion.ac.il
You may also contact postdocs@int.technion.ac.il

Neubauer American Study Abroad Semester

The Semester Program provides students with a unique opportunity to get a taste of student life in Israel and experience Technion's excellence.

The program is designed to prepare students to excel in their future academic and professional careers. Students study in classes with Israeli peers, visit start-up companies and meet technology entrepreneurs. Living on-campus, they participate in cultural activities and trips around Israel, and are invited to apply for **Professional** or **Research Internships.**

We offer three focused semester tracks – each one consists of academic courses and extracurricular activities. Students are invited to choose a study track or simply choose course options and activities listed online. Hebrew language courses are also offered.*

Semester Tracks

Spring semester starts in March

Neubauer Engineering and Science Track:

Match study abroad options with degree requirements of your home university.

Choose courses in a range of science and engineering fields including civil, mechanical, chemical engineering, industrial engineering and management, and the newly emerging field of data science.
Courses are also offered in entrepreneurship, business, medicine, and Middle Eastern history.

Neubauer Entrepreneurship Track:

Explore Israel's unique high-tech ecosystem.

Benefit from an intensive curriculum combining classroom instruction with start-up simulations, site visits, and practical experience working in small teams with business mentors on developing a business project.

Neubauer Pre-Med/Health Track:

Introduction to basic medical sciences with experience in advanced clinical settings and cutting-edge laboratories

Unique academic courses include Medicine and Halacha, Becoming a Doctor, and Introduction to Emergency Medicine.

** Courses are subject to change, an updated list is available online at int.technion.ac.il*

International Summer Programs

Spend an exciting summer exploring science, business or sustainable engineering

Engineering and Science

Outstanding postgraduate and senior undergraduate students enhance their academic profile with advanced courses in engineering and science offered at Technion's leading faculties.

Courses are offered in: civil engineering, chemistry, electrical engineering, entrepreneurship and management, mathematics, and mechanical engineering, including medicine and the newly emerging field of data science. Students may also take a Hebrew language course and/or Middle Eastern history.*

Entrepreneurship and Innovation

Students get a first-hand look at Israel's unique business ecology and gain practical experience in areas related to the development of technology start-ups, in the evolving fields of biotechnology, big data, media and others.

The curriculum includes marketing fundamentals, economics of innovation, strategic business planning and more, as well as a final project where students will prepare a business plan for the commercialization of their business idea and work on a VC presentation, under the guidance of professional mentors.*

Engineering within Developing Communities - Summer Program in Ethiopia

Open-minded students studying fields relevant to sustainable development explore topics in public health, infrastructure, and appropriate technologies in a 4-week long program designed to teach the importance of engineering in social and community development.

Through fieldwork and engagement with locals, students will practice community-based approaches to identify communal needs, come up with appropriate solutions and put their plan into action. The 2016 summer program will take place in a rural community in Ethiopia.*

** Program participants will be awarded Technion credits.*

Additional information on our summer programs can be found at http://int.technion.ac.il.
You may also contact us at apply@int.technion.ac.il

Internship Opportunities

Gain valuable work experience and broaden perspectives while taking in Israel's unique entrepreneurial economy and Technion's penchant for innovation.

Neubauer Professional Internship (for Credit)

The Neubauer Professional Internship course is a directed work-study experience where students get to work in their fields of study or interest, supervised by Technion faculty and on-site supervisor. Professional internships may be taken at high-tech, start-up and engineering related companies of any size in industries such as medical devices, biotechnology, media, water and environment, internet or other industry sector common to the Israeli economy.

Professional internships may count towards the Co-op requirement of your degree. Full- and part-time options are available: Students can be accredited **up to 3 credits**, for a minimum of 200 hours over a period of 8-30 weeks.

Research Internship

Research internships at the Technion are generally organized as direct individual tutorship and collaboration between a Technion faculty member (PI) and the student intern, who becomes an integral member of the supervising faculty's research team.

Research internships are between 3 months to 1 year in duration, and are available in the following fields: aerospace engineering; architecture and town planning; biology; biomedical engineering; biotechnology and food engineering; chemical engineering; chemistry; civil and environmental engineering; computer science; education in technology and science; electrical engineering; industrial engineering and management; materials science and engineering; mathematics and applied mathematics; mechanical engineering; and physics.

Application Process
Undergraduate students with a minimum GPA of 80/3.0 and above are welcome to apply. Technion Internships, which are unpaid positions, should be applied for at least 3 months in advance.

Internships are especially suitable to be taken along with **Neubauer Study Abroad Spring Semester** programs and may also be taken as a stand-alone program during the academic year (fall, spring and summer semesters).

More information on these exiting internship programs can be found on our website: http://int.technion.ac.il
You may also contact apply@int.technion.ac.il

Customized Study Programs

For future innovators who aspire to move ideas from concept to commercial success.

Technion teams up with partner universities in developing customized study programs to enrich students' knowledge in specialized fields of engineering and science, entrepreneurship and innovation, water technologies and innovation, and related areas.

Program features include a tailored curriculum that corresponds to the academic goals set out by the partner university, and combines academic studies with practical field work (that can be fully provided by Technion or in partnership with the visiting faculty).

The study programs are between 1-4 weeks in length and are designed for groups of up to 30 students. Exciting cultural activities and tours are also included.

Examples of current and past programs

- **Entrepreneurship and Innovation (1-4 weeks):** This program focuses on entrepreneurial dynamics and examines Israeli entrepreneurial culture or "success formula" for creating a business environment ripe for innovation. Related subjects such as idea processing, crowd funding and entrepreneurial finance, social networks, big data, negotiations and others are explored through integrated case studies, start-up simulations, round table panel discussions with entrepreneurs, investors, policy makers and students, and site visits to start-up companies in Israel's main high-tech hubs: Haifa, Tel Aviv and Jerusalem.

- **Water Technology and Innovation (1-4 weeks):** The curriculum focuses on the relationship between academia, industry and government that has contributed to Israel's successful water-conservation industry. Faced with water scarcity and a growing population, the Israeli government enacted policies and advanced technological initiatives to maximize the country's limited water resources. The result is a green and blooming environment, paralleling water-rich nations: Israel has successfully implemented desalination projects, operates one of the world's best water supply systems, has one of the highest wastewater reuse rates, and is a leading developer and exporter of agricultural and water technology products.

For additional information please contact us at marketing@int.technion.ac.il

High School Summer Programs

Explore fascinating subjects, prepare for your future, and spend an incredible summer in Israel.

High school students aged 15-17, will experience the excitement of living on campus, learning with renowned faculty, making new friends and participating in unique cultural activities while exploring the country's most popular tourist attractions.

Our pre-university programs run from 3 weeks to one month in length and include on-campus accommodation and use of Technion's excellent sports facilities.

Entrepreneurship Start-Up Summer Programs
Tech-minded teens explore high-tech business development and innovation in a fun and welcoming atmosphere through specially designed programs coordinated by the Jewish Journey and Technion International.

These programs consist of academic workshops on high-tech entrepreneurship, site visits to Israeli tech firms, and meetings with leaders and innovators in the field. Students learn to turn an idea into a start-up business plan and present their business idea to a panel of Israeli CEOs at the end of the program.

STEP Technion

STEP is a one month summer program for 9th-12th graders. It is designed for modern Orthodox high school students with a passion for technology who are interested in exploring their Jewish roots and discovering the "Start-Up Nation" for themselves.

Start-Up Program

Start-Up is a 4-week program for 9th-12th graders with an entrepreneurial spirit and a high level of English proficiency. Working in small teams students gain experience in innovative thinking and benefit from cross-cultural exchange.

SciTech Research Program

Talented high school students who have completed Grade 10, 11 or 12 are invited to take on real-life research projects at Technion's cutting-edge labs. In this 4-week program students work on a research project supervised by prominent faculty members, and present their findings at a professional plenary assembly. Research projects can be chosen from a wide selection of fields: industrial design; biotechnology and food engineering; biology; biomedical engineering; chemistry; civil engineering; game theory; aerospace engineering; and medicine.

For more information please contact us at: scitech@pa.technion.ac.il

Designed by CASTRONAWY

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